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ABSTRACT

In an effort to expand research on effective and ineffective schools into the area of student attitudes, this study examined the cognitive, as well as the noncognitive scores for two groups of Pennsylvania schools that had been identified as effective or ineffective. Cognitive and noncognitive data were available for all 500 school districts for the 6 years of Pennsylvania's Educational Quality Assessment program. In general, schools that were successful in cognitive areas such as reading, writing, and mathematics were successful in noncognitive areas as well. Ineffective schools, for most areas, were ineffective in both cognitive and noncognitive areas. A major concern was the low interest in school and learning scores found among secondary schools scoring high in cognitive (basic skill) areas. (Author/PN)

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An Investigation of the Cognitive and Noncognitive Scores for Effective and Ineffective Schools

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Abstract

The principal intent of this study was to examine the noncognitive scores for two groups of schools identified as effective or ineffective using a cognitive definition, and likewise the cognitive scores of two groups of schools designated as effective and as ineffective using a noncognitive definition. In general, schools that were successful in cognitive areas such as reading, writing and mathematics were successful in noncognitive areas as well. Ineffective schools, for most areas, were ineffective in both cognitive and noncognitive areas. A major concern was the low interest in school and learning scores found among secondary schools scoring high in cognitive areas.

Table of Contents

	Page
Abstract	i
Introduction	1
Instruments	3
Methods	4
Data Source	5
Results	6
Cognitive Definition Descriptive Statistics	6
Cognitive Definition Analysis of Data	11
Cognitive Definition Correlations Between Variables	18
Noncognitive Definition Descriptive Statistics	18
Noncognitive Definition Analysis of Data	19
Noncognitive Definition Correlations Between Variables	26
Conclusions	26
References	37
Appendix A. "Noncognitive Items and State Data"	38
Grade 5	39
Grade 8	42
Grade 11	45

List of Tables

		Page
Table 1.	Descriptive Statistics for Grade 5, All Variables	7
Table 2.	Descriptive Statistics for Grade 8, All Variables	9
Table 3.	Descriptive Statistics for Grade 11, All Variables	10
Table 4.	T'Tests and Z-Tests Between Selected Variables, Grade 5, Cognitive Definition	12-13
Table 5.	T'Tests and Z-Tests Between Selected Variables, Grade 8, Cognitive Definition	14-15
Table 6.	T'Tests and Z-Tests Between Selected Variables, Grade 11, Cognitive Definition	16-17
Table 7.	T'Tests and Z-Tests Between Selected Variables, Grade 5, Noncognitive Definition	20-21
Table 8.	T'Tests and Z-Tests Between Selected Variables, Grade 8, Noncognitive Definition	22-23
Table 9.	T'Tests and Z-Tests Between Selected Variables, Grade 11, Noncognitive Definition	24-25
Table 10.	Correlations Between Selected Variables, Grade 5	27-29
Table 11.	Correlations Between Selected Variables, Grade 8	30-32
Table 12.	Correlations Between Selected Variables, Grade 11	33-35

An Investigation of the
Cognitive and Noncognitive Scores
for Effective and Ineffective Schools

INTRODUCTION

Cognitive scores are typically used to designate effective and ineffective schools while noncognitive measures are rarely considered in a discussion of such schools. The principal intent of this study was to examine the noncognitive scores of two groups of schools identified as effective and as ineffective using a cognitive definition, and likewise the cognitive scores of two groups of schools designated as effective and as ineffective using a noncognitive definition. In addition, the study will examine selected characteristics of schools that are identified as effective and as ineffective for both definitions.

Pennsylvania's state assessment, the Educational Quality Assessment (EQA), provides a school building assessment on fourteen goal areas related to the state adopted goals of quality education. The fourteen goal areas assessed by EQA include both cognitive and noncognitive topics. Since data were available for all Pennsylvania school districts on the EQA measures, the study of effective and ineffective schools was conducted.

Well known educators have expressed an interest in the two topics of this study (1) effective and ineffective schools and (2) cognitive and noncognitive dimensions of education. For example, Edmonds (1980) and Brookover, et al. (1979) have conducted extensive research on school effectiveness. Brookover (1981) has identified three sets of social system characteristics and a number of variables under each characteristic that are related to school effectiveness. They are not mutually exclusive variables in the school social system but an overlapping set of variables which interact in various ways in different schools.

The following is a synthesis of those characteristics and variables:

1. Ideology of Effective Schools

    - a belief that students can learn
    - a belief that teachers can teach their students
    - students believe they can learn and be successful in school
    - high expectations for student success and high academic standards
    - clear norms of behavior considered appropriate

2. Social Structure of Effective Schools

    - smaller size student body in a school
    - role of the principal as assertive instructional leader
    - role of the teacher as instructor of all (both high and low achieving along with those in between) students and responsible for effective student learning
    - role of the student as learner with the stress on academic achievement and appropriate behavior

3. Instructional Practices in Effective Schools

- . school goals and objectives are clarified and pursued
- . reinforcement-rewards and praise for students
- . direct, whole group instruction
- . increased engaged time on task
- . regular monitoring or assessment of student and school effectiveness
- . student team cooperation and learning (Brookover, 1981)

Others, such as Howard (1978) and Rutter, et al. (1979) as well as Brookover (1979) have examined the construct of school climate. A positive school climate was characterized by:

1. the ways that schools encourage student attendance, attention, commitment and progress (Epstein, 1980);

2. the situation where, "Everyone's focusing on school goals and student outcomes as well as on personal relationships and salutary feelings. The ideal school climate engages everyone enthusiastically in achieving the individual and group goals at hand" (Thomson, 1980); and

3. the development of an environment where the norms and values of a school are communicated in clear, consistent expectations and through appropriate role models and feedback (Rutter, 1979).

Basically, the climate permeates all school buildings just as it does any social organization. It is a complex set of interrelated factors, not independent entities, which are not easily defined or studied, let alone changed. Basically there are a multitude of variables operating simultaneously which become school climate. As a result, climate is not a simple construct but a complex web of interacting threads which affect the total school. In sum, climate is made up of people's norms, beliefs, attitudes and values which impact on the conditions, events and practices of the total school environment (Lezotte, 1980). Climate not only concerns beliefs, feelings and expectations about how people get along, but also how the organization, as a whole, works towards its common goals - how decisions are made, how problems are solved and how people get reinforced within the organizational structure.

By assessing and describing school climate, there is the issue of how climate impacts or affects in the school. In a number of secondary schools across the country, educators (Howard, 1978; Stenson, 1980) have demonstrated that as the school climate becomes more positive, discipline problems, vandalism and violence subside. Attendance and academic achievement improve. The truancy and dropout rate declines. A study (Kaminsky, 1978) has shown that affective education and school climate improvement programs can reduce school crime by improving students' self-esteem.

Several educators have focused on the relationship between affective education and student learning or student behavior. Combs (1982) noted the link between student self-concept and learning. He contended that students who believed they can succeed are more likely to try, and thus are more likely to succeed. Their success and teacher feedback then positively enhance the students' self-concepts. Newberg and Loue (1982) explored the teacher-student

relationship (or classroom climate relationship) with student achievement. Topics such as establishing high standards for all students, the quality and quantity of teacher feedback to students and providing specific instruction were found to influence student achievement.

It was with this research in mind that the investigation was conducted. Two important differences must be noted between the research reviewed and this study. School level data and a total state population were used to examine the cognitive and noncognitive statistical relationships. In other studies smaller samples were used and in some cases student or classroom level data were considered. The following sections provide a review of the EQA instruments, methods, data source, results and conclusions.

INSTRUMENTS

The present EQA package, developed by the Pennsylvania Department of Education staff, with the assistance of advisory committees, has been in use since 1978. This assessment package provides school districts with information at the school building level in both cognitive and affective areas in grades five, eight and eleven. School data includes scores on the following areas: (1) self-esteem, (2) understanding others, (3) reading, (4) writing skills, (5) mathematics, (6) interest in school and learning, (7) societal responsibility, (8) knowledge of law/government, (9) health practices, (10) creative activities, (11) career awareness, (12) appreciating human accomplishments, (13) knowledge of human accomplishments and (14) information usage. In this study six of the fourteen goal areas were used to represent the cognitive and noncognitive areas. Self-esteem, interest in school and learning, and societal responsibility were selected as noncognitive measures, while reading, writing skills and mathematics were employed as cognitive measures.

All EQA instruments are multiple choice format. The grade five reading test, consisting of forty-eight items, is comprised of predominately inferential comprehension items. For writing skills, the test includes forty-five items measuring mechanics and usage, sentence sense, paragraph sense and style, tone and flavor. The sixty item mathematics test, measuring conceptual, computational and problem-solving levels, contains items dealing with number systems, numeration, notation, geometry, measurement, number patterns, relationships and other topics. For self-esteem, the instrument taps feelings of success and feelings of acceptance - primarily in the school setting. This thirty-three item self-esteem instrument has three subscales which are: teacher-student relationships, peer relationships and student self-image in school. The interest in school and learning instrument consists of twenty-seven items that survey student feelings on the climate and learning atmosphere in the school, the educational experiences the school provides, the quality of personal interactions it fosters between students and educators and the students' attitudes towards learning. For societal responsibility, a twenty-seven item instrument, the students are asked if they will assume responsibility for their actions and the actions of groups to which they belong, work cooperatively, demonstrate integrity when dealing with others, take the initiative and assume leadership, as well as support group efforts as followers. In order to provide additional information on the noncognitive measures, the items and item data were placed in Appendix A for the three grade levels. The reliability and validity of the six instruments used in the study

are documented in the manual, Getting Inside the EQA Inventory (Kohr, Hertzog and Seiverling, 1984).

The EQA program includes data collection on thirty-three condition variables for each school. Condition variables reflect teacher perception of the school, student perception of the school, student socioeconomic status (SES), student perception of parental interest in school, population density along with others. Of these data population density and SES were used to provide additional information about the schools selected as being effective and ineffective.

The EQA program provides two types of school scores. First, a school percentile rank is calculated for each school, based on state norms, for the fourteen goal areas previously listed. Second a school predicted score range is produced for each school on the fourteen goal areas noted using multiple regression. That is, the thirty-three school condition variables are candidates for entry into regression to calculate the school's predicted score range. Thus, the school conditions (including SES) are reflected in the predicted score range.

METHODS

Since predicted score ranges were available for each school, they were employed in selecting effective and ineffective schools. For the cognitive definition, effective schools were those scoring above their predicted score range in at least two of the three basic skill areas (reading, writing and mathematics), but not below the predicted score range in the third area. Ineffective schools were identified scoring below their predicted score range in at least two of the three basic skill areas, but not above the predicted score range in the third area. School percentile ranks were not considered in the selection of schools, resulting in some rather low scoring schools (on basic skills) being identified as effective and some rather high scoring schools being identified as ineffective.

For the noncognitive areas only the EQA measures of (1) self-esteem, (2) interest in school and learning and (3) societal responsibility are employed in the study. Effective schools (for the noncognitive definition) were those scoring above their predicted score range in at least two of the three noncognitive areas, but not below the predicted score range in the third area. Ineffective schools were schools scoring below their predicted score range in at least two of the three noncognitive areas, but not above the predicted score range in the third area.

Mean scores were available on the fourteen goal areas and the thirty-three school conditions for each school identified as effective or ineffective. When the cognitive definition is employed to identify effective and ineffective schools the three noncognitive scores from the two groups of schools will be examined to determine if they differ significantly. A similar procedure will be followed to study the differences in three cognitive scores when the noncognitive definition is employed to identify effective and ineffective schools. In both cases t'tests will be used to determine if a significant difference exists.

In essence, the study examined whether or not schools that produce better than expected cognitive scores also produce higher effective scores. The obverse was examined in that outliers on noncognitive measures were identified and their cognitive scores were analyzed.

For both groups of schools one group identified as effective one group and as ineffective according the cognitive definition, their noncognitive scores will be compared to the state mean noncognitive scores. For the schools classified as effective and as ineffective based on a noncognitive definition, their cognitive scores will be compared to the state mean cognitive scores. A z-test will be employed to ascertain if significant differences are present between the state mean scores and effective or ineffective school mean scores.

Pearson Product Moment Correlations will be used to estimate the statistical relationship between effective schools (cognitive definition) cognitive and noncognitive scores, and between ineffective schools (cognitive definition) cognitive and noncognitive scores. This will provide statistical information on the tendency for effective schools to excel in both cognitive and noncognitive areas or to succeed in one area but not the other. A similar procedure will be utilized for effective and ineffective schools defined by noncognitive scores.

A strong positive correlation between SES (parental occupation or education level) and school cognitive scores was found since the inception of the state's assessment program in 1970. Also, for noncognitive areas such as self-esteem correlations with SES variables have ranged from .10 to .50 depending on the year and the grade level examined. Therefore, part of the investigation will include an analysis of the statistical relationship between SES and the four groups of schools. Population density was considered in the study because of EQA findings in past years. For example, rural areas were associated with high societal responsibility scores but lower self-esteem scores. Urban areas were found to have higher self-esteem scores and at times higher interest in school and learning scores.

DATA SOURCE

Data were available for all 500 Pennsylvania school districts during the six years included in the study. About one-third of the Philadelphia City Schools did not participate in the EQA program during the six-year period. Hence, the only schools not considered from the state were one-third of the Philadelphia schools. A six-year period was utilized since the same EQA package of items was employed from 1978 to 1983. Across the six years a total of 598 high schools, 714 middle schools or junior high schools and 1,896 elementary schools were examined to locate effective and ineffective schools. Those school scores included approximately 180,000 grade eleven, 144,000 grade eight, and 136,000 grade five student scores.

First, the effective and ineffective (cognitive definition) schools were identified. A total of 232 elementary, ninety-three middle or junior high and seventy-five senior high schools were found to be effective. Also, 196 elementary, eighty-nine middle or junior high schools and seventy-six senior high schools were identified as ineffective. Second, the noncognitive definition was employed to identify effective and ineffective schools. This resulted in 167 elementary, seventy-seven middle or junior high and fifty-seven senior high

schools being identified as effective. Scoring below the prediction bands in at least two of three affective goals were: 199 elementary, fifty-four middle or junior high and fifty-six senior high schools. They comprised the ineffective group.

RESULTS

The results were presented in two sections (1) for the cognitive definition of effective and ineffective school groups and (2) for the noncognitive definition of effective and ineffective school groups. Data were presented in those two sections to make the results easier to read and analyze.

Cognitive Definition Descriptive Statistics

The initial step in the analysis of data was to calculate means and standard deviations for the population of Pennsylvania and the four samples at grades five, eight and eleven. The four samples were as follows: (1) effective schools - cognitive definition, (2) ineffective schools - cognitive definition, (3) effective schools - noncognitive definition, and (4) in effective schools - noncognitive definition. These data were placed in Table 1 for grade five, Table 2 for grade eight and Table 3 for grade eleven for the four samples and the State of Pennsylvania.

Data for grade five provides insight into the statistical link between cognitive and noncognitive school scores. For example, of the mean self-esteem school scores, in Table 1, the score for effective schools - noncognitive definition at 65.88 was highest of all self-esteem scores. This was anticipated based on the noncognitive definition that identified effective schools as those scoring higher than predicted. In a similar fashion ineffective schools resulted in the lowest mean self-esteem score of 58.80.

The mean self-esteem scores that were of interest were for the cognitive definition - effective schools and cognitive definition - ineffective schools. Based on a cognitive definition the effective schools were found to have a mean score of 63.19 which was higher than the Pennsylvania state mean, the cognitive definition - ineffective school mean, and the noncognitive - ineffective school mean. Thus, schools that were effective based on a cognitive definition were found to have a rather high mean score in their noncognitive area of self-esteem. Also, ineffective schools based on a cognitive definition were found to have a mean score on self-esteem of 61.01. Another way of stating this was that effective schools based on a cognitive definition had some success overall in the noncognitive area of self-esteem. While ineffective schools based on a cognitive definition had a mean score that reflected ineffectiveness in self-esteem. This pattern was found for the other noncognitive areas of interest in school and learning and societal responsibility at grade five.

Overall, for the cognitive definition there was a tendency at grade five for effective schools to have mean scores in noncognitive areas that were higher than the state mean and higher than the ineffective school means. For the ineffective schools there was a tendency for mean scores in noncognitive areas to be lower than both the state mean and the effective school mean.

TABLE 1

DESCRIPTIVE STATISTICS FOR GRADE 5, ALL VARIABLES

VARIABLE	COGNITIVE EFFECTIVE	COGNITIVE INEFFECTIVE	PENNSYLVANIA	NONCOGNITIVE EFFECTIVE	NONCOGNITIVE INEFFECTIVE
SELF-ESTEEM					
Mean	63.19	61.01	62.31	65.88	58.80
Standard Deviation	3.60	3.90	3.63	3.77	3.41
INTEREST IN SCHOOL					
Mean	55.43	54.62	55.05	59.00	51.10
Standard Deviation	3.63	3.74	3.51	3.15	3.40
SOCIETAL RESPONSIBILITY					
Mean	43.50	41.59	42.89	45.60	40.05
Standard Deviation	3.04	2.23	2.78	2.39	2.79
READING					
Mean	31.47	23.17	27.96	28.35	27.17
Standard Deviation	3.97	4.28	4.56	4.32	5.29
WRITING					
Mean	32.12	25.90	29.51	29.51	29.01
Standard Deviation	2.91	3.36	3.55	3.36	4.01
MATHEMATICS					
Mean	41.00	32.59	37.35	37.85	36.57
Standard Deviation	3.89	3.85	4.42	4.36	4.75
PARENTAL EDUCATION					
Mean	3.62	3.52	3.70	3.65	3.70
Standard Deviation	.67	.54	.67	.56	.71
PARENTAL OCCUPATION					
Mean	52.02	50.47	54.04	52.50	53.71
Standard Deviation	14.19	13.43	13.77	11.95	14.85
POPULATION DENSITY					
Mean	2.43	2.57	2.38	2.13	2.40
Standard Deviation	2.27	2.43	2.23	2.28	2.28

Pennsylvania n = 1896; Cognitive Effective n = 232; Cognitive Ineffective n = 196; Noncognitive Effective n = 167; and Noncognitive Ineffective n = 199 schools

Socioeconomic status was represented by two variables, parental education level and parental occupation level. In this study higher values on the SES variables represented higher SES levels. For grade five, effective and ineffective schools based on a cognitive definition have the lowest mean scores of any sample in parental education and parental occupation. Thus, the cognitive definition for ineffective schools selected schools with an overall lower SES level, and the cognitive definition for effective schools selected schools with a mean SES level that was also low. Although differences in SES were found it should be noted those differences were small.

Population density was a school condition variable used in the study. A higher value for the variable reflected areas with higher population density. Schools which were ineffective based on a cognitive definition had the highest mean score of 2.57 on population density. This was followed by 2.43 for the cognitive definition - effective schools, and both were above the state mean of 2.38.

Descriptive statistics were calculated for grade eight which included the means and standard deviations (see Table 2). Using the cognitive definition self-esteem and societal responsibility means for the effective schools were found to be higher than the ineffective school means. On interest in school and learning the grade eight effective schools mean score was lower (68.63) than the ineffective school mean score of 68.77. Also, the effective school mean was below the state mean in self-esteem and interest in school and learning but above the state mean for societal responsibility.

For the two SES variables the pattern of scores was in many ways similar to the grade five data. The effective schools and ineffective schools - cognitive definition had lower SES mean scores than the other samples and the state. Population density data for ineffective schools (scoring below prediction in basic skills) revealed those schools were in areas of higher population density. Effective schools were from areas of lower population density, overall.

Descriptive statistics were prepared for grade eleven (see Table 3, page 10) using the cognitive definition. The grade eleven data for self-esteem and societal responsibility presented the pattern of effective schools having a higher mean score than the ineffective schools and higher than the state mean. For interest in school and learning the effective schools mean score was lower than the state mean and lower than the ineffective schools. Interest in school and learning results were not what was anticipated based on the scores for other areas.

A review of the two SES variables found the Pennsylvania average parental education level and parental occupation level was higher than any of the effective or ineffective school group means. The effective schools did have a higher mean SES score than the ineffective schools - cognitive definition. At grade eleven the ineffective schools - cognitive definition were, in general, located in areas of higher population density.

Over all grade levels considered there was a pattern for schools that were effective in cognitive areas to score well in noncognitive areas. In other words, the effective schools were scoring higher than the state mean and higher than the ineffective schools. The ineffective schools were in most cases

TABLE 2

DESCRIPTIVE STATISTICS FOR GRADE 8, ALL VARIABLES

VARIABLE	COGNITIVE EFFECTIVE	COGNITIVE INEFFECTIVE	PENNSYLVANIA	NONCOGNITIVE EFFECTIVE	NONCOGNITIVE INEFFECTIVE
SELF-ESTEEM					
Mean	58.67	57.90	58.71	61.10	56.24
Standard Deviation	2.46	3.02	2.61	2.31	2.55
INTEREST IN SCHOOL					
Mean	68.63	68.77	69.21	74.22	65.85
Standard Deviation	5.03	6.23	5.21	5.59	4.47
SOCIETAL RESPONSIBILITY					
Mean	62.08	60.24	61.38	64.61	58.36
Standard Deviation	3.59	4.00	3.67	3.32	3.89
READING					
Mean	29.27	23.79	27.05	27.37	26.08
Standard Deviation	3.09	4.10	3.85	3.87	4.92
WRITING					
Mean	38.87	33.74	36.99	37.50	36.07
Standard Deviation	3.07	4.41	3.89	3.75	5.35
MATHEMATICS					
Mean	34.13	28.43	31.76	31.95	30.59
Standard Deviation	3.54	4.63	4.55	4.50	5.87
PARENTAL EDUCATION					
Mean	3.62	3.64	3.70	3.67	3.72
Standard Deviation	.46	.72	.56	.66	.60
PARENTAL OCCUPATION					
Mean	56.17	54.57	57.43	57.15	57.15
Standard Deviation	9.54	11.29	10.43	9.95	12.00
POPULATION DENSITY					
Mean	1.93	2.79	2.34	2.41	2.64
Standard Deviation	1.97	2.36	2.06	2.34	2.18

Pennsylvania n = 714; Cognitive Effective n = 93; Cognitive Ineffective n = 89; Noncognitive Effective n = 77; and Noncognitive Ineffective n = 54 schools

TABLE 3

DESCRIPTIVE STATISTICS FOR GRADE 11, ALL VARIABLES

VARIABLE	COGNITIVE EFFECTIVE	COGNITIVE INEFFECTIVE	PENNSYLVANIA	NONCOGNITIVE EFFECTIVE	NONCOGNITIVE INEFFECTIVE
SELF-ESTEEM					
Mean	59.95	59.01	59.63	61.32	57.72
Standard Deviation	2.76	2.59	2.47	2.63	2.23
INTEREST IN SCHOOL					
Mean	65.40	65.91	65.80	69.50	62.56
Standard Deviation	5.18	5.67	4.90	5.48	4.94
SOCIETAL RESPONSIBILITY					
Mean	51.66	48.13	50.36	52.81	48.34
Standard Deviation	2.12	2.83	2.52	2.10	2.31
READING					
Mean	27.42	21.34	24.89	26.07	23.40
Standard Deviation	2.68	2.85	3.20	2.80	3.31
WRITING					
Mean	36.63	30.94	34.44	35.18	33.08
Standard Deviation	2.69	3.02	3.32	2.76	4.09
MATHEMATICS					
Mean	36.83	31.32	34.61	35.34	33.09
Standard Deviation	3.00	3.75	3.61	2.86	4.09
PARENTAL EDUCATION					
Mean	3.61	3.56	3.69	3.53	3.67
Standard Deviation	.50	.44	.49	.32	.49
PARENTAL OCCUPATION					
Mean	57.07	55.94	58.97	55.86	57.95
Standard Deviation	9.12	8.45	9.33	7.30	10.27
POPULATION DENSITY					
Mean	1.62	2.34	2.00	1.44	2.23
Standard Deviation	1.74	1.88	1.77	1.73	1.75

Pennsylvania n = 598; Cognitive Effective n = 75; Cognitive Ineffective n = 76; Noncognitive Effective n = 57; and Noncognitive Ineffective n = 56 schools

scoring lower than the state mean. The exceptions to this pattern were the grades eight and eleven interest in school and learning scores, where ineffective school means were higher than those of effective schools.

Cognitive Definition Analysis of Data

A series of t'tests and z-tests were employed to determine if significant differences existed between selected variables. T'tests were calculated to compare cognitive - effective with cognitive - ineffective groups of schools. In other words t'tests were used when comparing samples while z-tests were employed when one of the samples (cognitive - effective, cognitive - ineffective) was compared to the population (the state).

The results of the t'tests and z-tests were placed in Table 4 for grade five, Table 5 for grade eight and Table 6 for grade eleven. The authors did repeat the mean values for the samples and the population in Tables 4 through 6 found in Tables 1 through 3. This was done to provide easy access to the mean values in each series of tables for the reader.

For grade five (see Table 4) the self-esteem, interest in school and learning, and societal responsibility mean scores were significantly different for the groups. The cognitive - effective school mean was significantly greater than the cognitive - ineffective school mean and significantly greater than the Pennsylvania mean. Also, the cognitive - ineffective school mean was significantly less than the Pennsylvania mean. For the SES variables a significant difference was found between (1) the effective school mean and the state and (2) the ineffective school mean and the state. In both cases the state had a high SES value indicating higher socioeconomic status.

Grade eight results found in Table 5 on pages 14 and 15 were not the same in all areas as those for grade five. Only for societal responsibility were the means significantly different between the three groups: (1) cognitive - effective and cognitive - ineffective, (2) cognitive - effective and the state, and (3) cognitive - ineffective and the state. The only other noncognitive area where a significant difference was found was on self-esteem between the cognitive - ineffective and the state. Ineffective schools were found to have a parental occupation value significantly lower than the state. In population density the ineffective schools were from areas of higher density while the effective schools were from areas of lower population density.

Grade eleven results (see Table 6, pages 16 and 17) were more like those for grade eight. For societal responsibility a significant difference was found between the three groups analyzed. For interest in school and learning none of the groups was significantly different. The effective school mean was significantly greater than the ineffective school mean, and the ineffective school mean significantly less than the state mean for the area of self-esteem.

On self-esteem the effective schools scored significantly higher than the ineffective schools, for two of the three grade levels. When compared to the state, effective schools were significantly higher scoring at only grade five. The ineffective schools did score significantly lower than the state. Significant differences were found at all three grades for societal responsibility between effective and ineffective, effective and the state and ineffective and the state mean socres. Overall, there was a trend of effective schools in the

TABLE 4

T'TESTS AND Z-TESTS BETWEEN SELECTED VARIABLES,
GRADE 5, COGNITIVE DEFINITION

MEAN	MEAN	Z VALUE OR T'VALUE	PROBABILITY
SELF-ESTEEM			
COGNITIVE EFFECTIVE	63.19	5.95	.00
COGNITIVE INEFFECTIVE	61.01		
COGNITIVE EFFECTIVE	63.19	3.69	.01
PENNSYLVANIA	62.31		
COGNITIVE INEFFECTIVE	61.01	-5.00	.01
PENNSYLVANIA	62.31		
INTEREST IN SCHOOL & LEARNING			
COGNITIVE EFFECTIVE	55.43	2.26	.02
COGNITIVE INEFFECTIVE	54.62		
COGNITIVE EFFECTIVE	55.43	1.63	.05
PENNSYLVANIA	55.05		
COGNITIVE INEFFECTIVE	54.62	-1.73	.04
PENNSYLVANIA	55.05		
SOCIETAL RESPONSIBILITY			
COGNITIVE EFFECTIVE	43.50	6.26	.00
COGNITIVE INEFFECTIVE	41.59		
COGNITIVE EFFECTIVE	43.50	3.33	.01
PENNSYLVANIA	42.89		
COGNITIVE INEFFECTIVE	41.59	-6.56	.01
PENNSYLVANIA	42.89		
PARENTAL EDUCATION			
COGNITIVE EFFECTIVE	3.62	1.64	.10
COGNITIVE INEFFECTIVE	3.52		
COGNITIVE EFFECTIVE	3.62	-1.95	.03
PENNSYLVANIA	3.70		
COGNITIVE INEFFECTIVE	3.52	-3.81	.01
PENNSYLVANIA	3.70		

TABLE 4 - (Continued)

MEAN	MEAN	Z VALUE OR T'VALUE	PROBABILITY
PARENTAL OCCUPATION			
COGNITIVE EFFECTIVE	52.02	1.16	.25
COGNITIVE INEFFECTIVE	50.47		
COGNITIVE EFFECTIVE	52.02	-2.23	.01
PENNSYLVANIA	54.04		
COGNITIVE INEFFECTIVE	50.47	-3.62	.01
PENNSYLVANIA	54.04		
POPULATION DENSITY			
COGNITIVE EFFECTIVE	2.43	- .60	.55
COGNITIVE INEFFECTIVE	2.57		
COGNITIVE EFFECTIVE	2.43	.36	.36
PENNSYLVANIA	2.38		
COGNITIVE INEFFECTIVE	2.57	1.19	.12
PENNSYLVANIA	2.38		

Cognitive Effective n = 232; Cognitive Ineffective n = 196; and Pennsylvania n = 1896 schools

TABLE 5

T'TESTS AND Z-TESTS BETWEEN SELECTED VARIABLES,
GRADE 8, COGNITIVE DEFINITION

MEAN	MEAN	Z VALUE OR T'VALUE	PROBABILITY
SELF-ESTEEM			
COGNITIVE EFFECTIVE	58.67	1.88	.06
COGNITIVE INEFFECTIVE	57.90		
COGNITIVE EFFECTIVE	58.67	- .15	.44
PENNSYLVANIA	58.71		
COGNITIVE INEFFECTIVE	57.90	-2.92	.01
PENNSYLVANIA	58.71		
INTEREST IN SCHOOL & LEARNING			
COGNITIVE EFFECTIVE	68.63	- .17	.87
COGNITIVE INEFFECTIVE	68.77		
COGNITIVE EFFECTIVE	68.63	-1.08	.14
PENNSYLVANIA	69.21		
COGNITIVE INEFFECTIVE	68.77	.80	.21
PENNSYLVANIA	69.21		
SOCIETAL RESPONSIBILITY			
COGNITIVE EFFECTIVE	62.08	3.26	.00
COGNITIVE INEFFECTIVE	60.24		
COGNITIVE EFFECTIVE	62.08	1.83	.03
PENNSYLVANIA	61.38		
COGNITIVE INEFFECTIVE	60.24	-2.94	.01
PENNSYLVANIA	61.38		
PARENTAL EDUCATION			
COGNITIVE EFFECTIVE	3.62	- .26	.80
COGNITIVE INEFFECTIVE	3.64		
COGNITIVE EFFECTIVE	3.62	-1.50	.07
PENNSYLVANIA	3.70		
COGNITIVE INEFFECTIVE	3.64	-1.06	.14
PENNSYLVANIA	3.70		

TABLE 5 - (Continued)

MEAN	MEAN	Z VALUE OR T'VALUE	PROBABILITY
PARENTAL OCCUPATION			
COGNITIVE EFFECTIVE	56.17	1.03	.30
COGNITIVE INEFFECTIVE	54.57		
COGNITIVE EFFECTIVE	56.17	-1.17	.12
PENNSYLVANIA	57.43		
COGNITIVE INEFFECTIVE	54.57	-2.59	.01
PENNSYLVANIA	57.43		
POPULATION DENSITY			
COGNITIVE EFFECTIVE	1.93	-2.67	.01
COGNITIVE INEFFECTIVE	2.79		
COGNITIVE EFFECTIVE	1.93	-1.94	.03
PENNSYLVANIA	2.34		
COGNITIVE INEFFECTIVE	2.79	2.05	.02
PENNSYLVANIA	2.34		

Cognitive Effective n = 93; Cognitive Ineffective n = 89; and Pennsylvania n = 714 schools

TABLE 6

T'TESTS AND Z-TESTS BETWEEN SELECTED VARIABLES,
GRADE 11, COGNITIVE DEFINITION

MEAN	MEAN	Z VALUE OR T'VALUE	PROBABILITY
SELF-ESTEEM			
COGNITIVE EFFECTIVE	59.95	2.15	.03
COGNITIVE INEFFECTIVE	59.01		
COGNITIVE EFFECTIVE	59.95	1.13	.13
PENNSYLVANIA	59.63		
COGNITIVE INEFFECTIVE	59.01	-2.17	.01
PENNSYLVANIA	59.63		
INTEREST IN SCHOOL & LEARNING			
COGNITIVE EFFECTIVE	65.40	- .58	.57
COGNITIVE INEFFECTIVE	65.91		
COGNITIVE EFFECTIVE	65.40	- .71	.24
PENNSYLVANIA	65.80		
COGNITIVE INEFFECTIVE	65.91	.19	.43
PENNSYLVANIA	65.80		
SOCIETAL RESPONSIBILITY			
COGNITIVE EFFECTIVE	51.66	8.69	.00
COGNITIVE INEFFECTIVE	48.13		
COGNITIVE EFFECTIVE	51.66	4.48	.01
PENNSYLVANIA	50.36		
COGNITIVE INEFFECTIVE	48.13	-7.74	.01
PENNSYLVANIA	50.36		
PARENTAL EDUCATION			
COGNITIVE EFFECTIVE	3.61	.76	.45
COGNITIVE INEFFECTIVE	3.56		
COGNITIVE EFFECTIVE	3.61	-1.40	.08
PENNSYLVANIA	3.69		
COGNITIVE INEFFECTIVE	3.56	-2.45	.01
PENNSYLVANIA	3.69		

TABLE 6 - (Continued)

MEAN	MEAN	Z VALUE OR T'VALUE	PROBABILITY
PARENTAL OCCUPATION			
COGNITIVE EFFECTIVE	57.07	.76	.45
COGNITIVE INEFFECTIVE	55.94		
COGNITIVE EFFECTIVE	57.07	-1.76	.04
PENNSYLVANIA	58.97		
COGNITIVE INEFFECTIVE	55.94	-2.83	.01
PENNSYLVANIA	58.97		
POPULATION DENSITY			
COGNITIVE EFFECTIVE	1.62	-2.47	.02
COGNITIVE INEFFECTIVE	2.34		
COGNITIVE EFFECTIVE	1.62	-1.88	.03
PENNSYLVANIA	2.00		
COGNITIVE INEFFECTIVE	2.34	1.68	.05
PENNSYLVANIA	2.00		

Cognitive Effective n = 75; Cognitive Ineffective n = 76; and Pennsylvania n = 598 schools

cognitive areas to have high scores in the noncognitive areas. The area of interest in school and learning appeared to be the exception to the previous statement at the secondary levels of grade eight and grade eleven. For interest in school and learning the cognitive - effective school mean score was lower than the cognitive - ineffective school score and lower than the state mean. It is possible that the pressure placed on the students to excel in cognitive areas has had some negative results reflected on the interest in school and learning instrument. Also, it is interesting that grade five interest in school and learning scores were much different than the scores at the two secondary grades.

Cognitive Definition Correlations Between Variables

Correlations were calculated between selected variables as part of the study. Those correlations were calculated for (1) Pennsylvania, (2) cognitive - effective, (3) cognitive - ineffective, (4) noncognitive - effective, and (5) noncognitive - ineffective schools. Grade five results were placed in Table 10, grade eight results in Table 11 and grade eleven results in Table 12 (see pages 27 through 35). Note, that the correlations were based on school mean scores, not student data.

Many of the correlations varied little from the state when compared to the four samples used in the study, although there were some areas with interesting differences in the correlations. For example, at grade five the reading with population density correlations ranged from -.36 to -.51. Those schools which were selected as cognitive - ineffective had the highest correlation of -.51 while noncognitive - ineffective schools had the lowest correlation. Another example of correlations that varied was between self-esteem and reading, self-esteem and writing, and self-esteem and mathematics at grade eight. The effective schools had much lower correlations than the ineffective schools in all three cases.

Noncognitive Definition Descriptive Statistics

Noncognitive definition descriptive statistics were calculated using the noncognitive definition, means and standard deviations for effective and ineffective schools. These data were placed in Table 1 for grade five, Table 2 for grade eight and Table 3 for grade eleven. Thus, this analysis focused on reading, writing and mathematics scores for schools defined as either effective or ineffective based on a noncognitive definition.

Based on a noncognitive definition scores were examined for effective and ineffective schools at grade five in reading, writing and mathematics. Those schools that were effective based on a noncognitive definition were found to have mean scores in reading and mathematics that were higher than the state mean and higher than the mean for ineffective schools. This was not the case for writing where the effective schools had a mean score of 29.51 which was the same as the state mean of 29.51. For all three areas (reading, writing and mathematics) the effective schools scored higher than the ineffective schools.

At grade five using the noncognitive definition, effective and ineffective schools had SES mean scores that were lower than or equal to the state mean, but higher than the schools identified through the cognitive definition. Based on EQA data, SES correlations with attitudinal variables were lower than SES correlations with cognitive variables.

Population density data were presented in Table 1 (see page 7) for grade five. The effective schools based on a noncognitive definition were found in the areas of lower population density. Ineffective schools were similar to the overall state population density value. Both effective and ineffective schools were found to have lower population density values than the effective and ineffective schools based on a cognitive definition.

Descriptive statistics were calculated for grade eight which included the means and standard deviations (see Table 2, page 9). The schools scoring above their predicted score range also scored higher in reading, writing and mathematics than the schools scoring below their predicted score range in effective areas. In addition, effective school mean scores were higher than the Pennsylvania mean while the ineffective school means were below the state mean.

For the two SES variables the grade eight scores were in many ways similar to those for grade five. Based on the noncognitive definition ineffective schools had the highest mean SES score of 3.72 in parental education and next to the highest score (57.15) in parental occupation. Population density data for ineffective schools revealed those schools were in areas of higher population density. Effective schools had a mean population density value slightly higher than the mean state value.

Descriptive statistics were prepared for grade eleven effective and ineffective schools based on a noncognitive definition. Data for reading, writing and mathematics were included in Table 3 (see page 10). Effective schools were found to have a higher mean score than the ineffective schools and the state for the three basic skill areas. Those schools that were ineffective were found to have a mean that was lower than the state average in reading, writing and mathematics.

A review of the two SES variables found the Pennsylvania average parental education levels and parental occupation level was higher than any of the effective or ineffective school group means. The effective schools did have the lowest mean on parental education and parental occupation while the ineffective schools were somewhat higher scoring. Ineffective schools had a mean parental education score that was only slightly below the state mean. Effective schools were found to have the lowest population density mean of the study samples. Ineffective schools were more often found in areas of higher population density.

In general, schools that were effective based on a noncognitive definition were scoring higher than the state average and higher than ineffective schools on reading, writing and mathematics. Ineffective schools were overall scoring lower than the state average in the three basic skill areas.

Noncognitive Definition Analysis of Data

A series of t'tests and z-tests were employed to determine if significant differences existed between selected variables when the noncognitive definition was employed to select schools. The results of the t'tests and z-tests were placed in Table 7 for grade five, Table 8 for grade eight and Table 9 for grade eleven. The authors did repeat the mean values for the samples and the population in Tables 7 through 9 found in Tables 1 through 3.

TABLE 7

T'TESTS AND Z-TESTS BETWEEN SELECTED VARIABLES,
GRADE 5, NONCOGNITIVE DEFINITION

MEAN	MEAN	Z VALUE OR T'VALUE	PROBABILITY
READING			
NONCOGNITIVE EFFECTIVE	28.35	2.36	.02
NONCOGNITIVE INEFFECTIVE	27.17		
NONCOGNITIVE EFFECTIVE	28.35	1.11	.13
PENNSYLVANIA	27.96		
NONCOGNITIVE INEFFECTIVE	27.17	-2.46	.01
PENNSYLVANIA	27.96		
WRITING			
NONCOGNITIVE EFFECTIVE	29.51	1.30	.20
NONCOGNITIVE INEFFECTIVE	29.01		
NONCOGNITIVE EFFECTIVE	29.51	.00	.50
PENNSYLVANIA	29.51		
NONCOGNITIVE INEFFECTIVE	29.01	-1.98	.02
PENNSYLVANIA	29.51		
MATHEMATICS			
NONCOGNITIVE EFFECTIVE	37.85	2.68	.01
NONCOGNITIVE INEFFECTIVE	36.57		
NONCOGNITIVE EFFECTIVE	37.85	1.46	.07
PENNSYLVANIA	37.35		
NONCOGNITIVE INEFFECTIVE	36.57	-2.48	.01
PENNSYLVANIA	37.35		
PARENTAL EDUCATION			
NONCOGNITIVE EFFECTIVE	3.65	- .90	.37
NONCOGNITIVE INEFFECTIVE	3.70		
NONCOGNITIVE EFFECTIVE	3.65	-1.12	.13
PENNSYLVANIA	3.71		
NONCOGNITIVE INEFFECTIVE	3.70	- .03	.49
PENNSYLVANIA	3.71		

TABLE 7 - (Continued)

MEAN	MEAN	Z VALUE OR T'VALUE	PROBABILITY
PARENTAL OCCUPATION			
NONCOGNITIVE EFFECTIVE	52.50		
NONCOGNITIVE INEFFECTIVE	53.71	- .86	.39
NONCOGNITIVE EFFECTIVE	52.50		
PENNSYLVANIA	54.04	-1.44	.07
NONCOGNITIVE INEFFECTIVE	53.71		
PENNSYLVANIA	54.04	- .34	.37
POPULATION DENSITY			
NONCOGNITIVE EFFECTIVE	2.13		
NONCOGNITIVE INEFFECTIVE	2.40	-1.15	.25
NONCOGNITIVE EFFECTIVE	2.13		
PENNSYLVANIA	2.38	-1.44	.07
NONCOGNITIVE INEFFECTIVE	2.40		
PENNSYLVANIA	2.38	.17	.43

Cognitive Effective n = 232; Cognitive Ineffective n = 196; and Pennsylvania n = 1896 schools

TABLE 8

T'TESTS AND Z-TESTS BETWEEN SELECTED VARIABLES,
GRADE 8, NONCOGNITIVE DEFINITION

MEAN	MEAN	Z VALUE OR T'VALUE	PROBABILITY
READING			
NONCOGNITIVE EFFECTIVE	27.38	1.62	.11
NONCOGNITIVE INEFFECTIVE	26.08		
NONCOGNITIVE EFFECTIVE	27.38	.75	.23
PENNSYLVANIA	27.05		
NONCOGNITIVE INEFFECTIVE	26.08	-1.85	.03
PENNSYLVANIA	27.05		
WRITING			
NONCOGNITIVE EFFECTIVE	37.50	1.69	.09
NONCOGNITIVE INEFFECTIVE	36.07		
NONCOGNITIVE EFFECTIVE	37.50	1.15	.13
PENNSYLVANIA	36.99		
NONCOGNITIVE INEFFECTIVE	36.07	-1.73	.04
PENNSYLVANIA	36.99		
MATHEMATICS			
NONCOGNITIVE EFFECTIVE	31.95	1.44	.15
NONCOGNITIVE INEFFECTIVE	30.59		
NONCOGNITIVE EFFECTIVE	31.95	.35	.36
PENNSYLVANIA	31.76		
NONCOGNITIVE INEFFECTIVE	30.59	-1.91	.03
PENNSYLVANIA	31.76		
PARENTAL EDUCATION			
NONCOGNITIVE EFFECTIVE	3.67	- .45	.65
NONCOGNITIVE INEFFECTIVE	3.72		
NONCOGNITIVE EFFECTIVE	3.67	- .49	.31
PENNSYLVANIA	3.70		
NONCOGNITIVE INEFFECTIVE	3.72	.24	.41
PENNSYLVANIA	3.70		

TABLE 8 - (Continued)

MEAN	MEAN	Z VALUE OR T'VALUE	PROBABILITY
PARENTAL OCCUPATION			
NONCOGNITIVE EFFECTIVE	57.15		
NONCOGNITIVE INEFFECTIVE	57.15	-0.00	.99
NONCOGNITIVE EFFECTIVE	57.15		
PENNSYLVANIA	57.43	- .24	.41
NONCOGNITIVE INEFFECTIVE	57.15		
PENNSYLVANIA	57.43	- .20	.42
POPULATION DENSITY			
NONCOGNITIVE EFFECTIVE	2.41		
NONCOGNITIVE INEFFECTIVE	2.64	- .57	.57
NONCOGNITIVE EFFECTIVE	2.41		
PENNSYLVANIA	2.34	.30	.38
NONCOGNITIVE INEFFECTIVE	2.64		
PENNSYLVANIA	2.34	1.06	.14

Cognitive Effective n = 93; Cognitive Ineffective n = 89; and Pennsylvania n = 714 schools

TABLE 9

T'TESTS AND Z-TESTS BETWEEN SELECTED VARIABLES,
GRADE 11, NONCOGNITIVE DEFINITION

MEAN	MEAN	Z VALUE OR T'VALUE	PROBABILITY
READING			
NONCOGNITIVE EFFECTIVE	26.07	4.63	.00
NONCOGNITIVE INEFFECTIVE	23.40		
NONCOGNITIVE EFFECTIVE	26.07	2.80	.01
PENNSYLVANIA	24.89		
NONCOGNITIVE INEFFECTIVE	23.40	-3.47	.01
PENNSYLVANIA	24.89		
WRITING			
NONCOGNITIVE EFFECTIVE	35.18	3.28	.00
NONCOGNITIVE INEFFECTIVE	33.03		
NONCOGNITIVE EFFECTIVE	35.18	1.69	.05
PENNSYLVANIA	34.44		
NONCOGNITIVE INEFFECTIVE	33.03	-3.18	.01
PENNSYLVANIA	34.44		
MATHEMATICS			
NONCOGNITIVE EFFECTIVE	35.34	3.39	.00
NONCOGNITIVE INEFFECTIVE	33.09		
NONCOGNITIVE EFFECTIVE	35.34	1.53	.06
PENNSYLVANIA	34.61		
NONCOGNITIVE INEFFECTIVE	33.09	-3.15	.01
PENNSYLVANIA	34.61		
PARENTAL EDUCATION			
NONCOGNITIVE EFFECTIVE	3.53	-1.79	.08
NONCOGNITIVE INEFFECTIVE	3.67		
NONCOGNITIVE EFFECTIVE	3.53	-2.55	.01
PENNSYLVANIA	3.69		
NONCOGNITIVE INEFFECTIVE	3.67	- .41	.34
PENNSYLVANIA	3.69		

TABLE 9 - (Continued)

MEAN	MEAN	Z VALUE OR T'VALUE	PROBABILITY
PARENTAL OCCUPATION			
NONCOGNITIVE EFFECTIVE	55.86	-1.24	.22
NONCOGNITIVE INEFFECTIVE	57.95		
NONCOGNITIVE EFFECTIVE	55.85	-2.51	.01
PENNSYLVANIA	58.97		
NONCOGNITIVE INEFFECTIVE	57.95	- .82	.21
PENNSYLVANIA	58.97		
POPULATION DENSITY			
NONCOGNITIVE EFFECTIVE	1.44	-2.40	.02
NONCOGNITIVE INEFFECTIVE	2.23		
NONCOGNITIVE EFFECTIVE	1.44	-2.38	.01
PENNSYLVANIA	2.00		
NONCOGNITIVE INEFFECTIVE	2.23	.96	.17
PENNSYLVANIA	2.00		

Cognitive Effective n = 75; Cognitive Ineffective n = 76; and Pennsylvania n = 598 schools

At grade five there were similar results for reading and mathematics (see Table 7, pages 20 and 21). The effective school mean was significantly higher than the ineffective school mean, but not significantly different from the state mean. The ineffective school mean was significantly lower than the Pennsylvania mean. On writing the only significant difference was between the ineffective school mean and the state mean. No significant differences were found between groups for the SES variables and on population density.

Grade eight results found in Table 8 on pages 22 and 23 were unlike those for grade five. The ineffective school means were significantly different from the state mean in reading, writing and mathematics. In all cases the ineffective schools means were lower. No other significant differences were found.

Grade eleven results (see Table 9, pages 24 and 25) were more like those for grade five than grade eight except for writing skills. In the reading and writing significant differences were found between the three groups analyzed. For mathematics a significant difference was found between the effective schools and ineffective schools along with the ineffective school mean being significantly higher than the state mean. Effective school SES was significantly lower than the state mean. Also, effective schools were found to have a population density value significantly lower than the ineffective schools and lower than the Pennsylvania mean. Overall, there was a tendency for schools that were effective to score high on the cognitive areas. Likewise, there was a trend for ineffective schools to have low scores in the basic skill areas.

Noncognitive Definition Correlations Between Variables

As noted correlations were calculated between selected variables as part of the study. Those correlations were calculated for (1) Pennsylvania, (2) cognitive - effective, (3) cognitive - ineffective, (4) noncognitive - effective, and (5) noncognitive - ineffective schools. Grade five results were placed in Table 10, grade eight results in Table 11 and grade eleven results in Table 12 (see pages 27 through 35). Note, the correlations were based on school mean scores not student data.

CONCLUSIONS

This study was an effort to expand the research on effective and ineffective schools into the area of student attitudes. Pennsylvania's state assessment program is one of the few that provides schools with data on both cognitive and noncognitive areas. Since data were available from all of the Pennsylvania school districts, a large number of school scores were examined in conducting the study.

The following conclusions were reached by identifying schools scoring above predictions in basic skill areas, then considering data for noncognitive areas. First, at all three grade levels effective schools scored significantly higher than ineffective schools and the state in societal responsibility. Second, effective schools scored significantly higher than ineffective schools and the state in interest in school and learning at grade five. There were no significant differences at grade eight and eleven between the group means for interest in school and learning. Third, effective schools were found to have

TABLE 10

CORRELATIONS BETWEEN SELECTED VARIABLES, GRADE 5

VARIABLE	PENNSYLVANIA	COGNITIVE EFFECTIVE	COGNITIVE INEFFECTIVE	NONCOGNITIVE EFFECTIVE	NONCOGNITIVE INEFFECTIVE
SELF-ESTEEM WITH READING	.46**	.32**	.52**	.48**	.50**
SELF-ESTEEM WITH WRITING	.47**	.31**	.51**	.46**	.51**
SELF-ESTEEM WITH MATHEMATICS	.46**	.37**	.41**	.34**	.48**
SELF-ESTEEM WITH INTEREST IN SCHOOL	.44**	.50**	.44**	.40**	.23**
SELF-ESTEEM WITH SOCIETAL RESPONSIBILITY	.47**	.42**	.60**	.41**	.34**
SELF-ESTEEM WITH PARENTAL EDUCATION	.35**	.20**	.25**	.31**	.48**
SELF-ESTEEM WITH PARENTAL OCCUPATION	.38**	.23**	.36**	.31**	.49**
SELF-ESTEEM WITH POPULATION DENSITY	-.06	-.07	-.16	-.04	-.09
READING WITH WRITING	.89**	.82**	.85**	.85**	.90**
READING WITH MATHEMATICS	.80**	.67**	.73**	.78**	.86**
READING WITH INTEREST IN SCHOOL	.00	.03	.04	.08	-.18
READING WITH SOCIETAL RESPONSIBILITY	.45**	.40**	.59**	.47**	.50**
READING WITH PARENTAL EDUCATION	.56**	.55**	.60**	.41**	.65**

TABLE 10 - (Continued)

VARIABLE	PENNSYLVANIA	COGNITIVE EFFECTIVE	COGNITIVE INEFFECTIVE	NONCOGNITIVE EFFECTIVE	NONCOGNITIVE INEFFECTIVE
READING WITH PARENTAL OCCUPATION	.63**	.62**	.71**	.51**	.66**
READING WITH POPULATION DENSITY	-.40**	-.43**	-.51**	-.37**	-.36**
WRITING WITH MATHEMATICS	.82**	.68**	.77**	.78**	.86**
WRITING WITH INTEREST IN SCHOOL	-.03	-.02	.04	-.04	-.15
WRITING WITH SOCIETAL RESPONSIBILITY	.40**	.33**	.57**	.37**	.44**
WRITING WITH PARENTAL EDUCATION	.62**	.62**	.69**	.50**	.69**
WRITING WITH PARENTAL OCCUPATION	.68**	.67**	.73**	.59**	.69**
WRITING WITH POPULATION DENSITY	-.32**	-.33**	-.42**	-.24**	-.33**
MATHEMATICS WITH INTEREST IN SCHOOL	.02	.10	-.06	-.01	-.19*
MATHEMATICS WITH SOCIETAL RESPONSIBILITY	.38**	.36**	.45**	.39**	.40**
MATHEMATICS WITH PARENTAL EDUCATION	.53**	.50**	.53**	.39**	.64**
MATHEMATICS WITH PARENTAL OCCUPATION	.57**	.52**	.58**	.44**	.64**
MATHEMATICS WITH POPULATION DENSITY	-.25**	-.23**	-.35**	-.27**	-.27**
INTEREST IN SCHOOL WITH SOCIETAL RESPONSIBILITY	.43**	.51**	.38**	.41**	.07

TABLE 10 - (Continued)

VARIABLE	PENNSYLVANIA	COGNITIVE EFFECTIVE	COGNITIVE INEFFECTIVE	NONCOGNITIVE EFFECTIVE	NONCOGNITIVE INEFFECTIVE
INTEREST IN SCHOOL WITH PARENTAL EDUCATION	-.07*	-.09	-.13	-.15	-.09
INTEREST IN SCHOOL WITH PARENTAL OCCUPATION	-.09**	-.11	-.10	-.11	-.08
INTEREST IN SCHOOL WITH POPULATION DENSITY	.07*	.01	.01	.09	.23*
SOCIETAL RESPONSIBILITY WITH PARENTAL EDUCATION	.09**	.03	.13	-.08	.22*
SOCIETAL RESPONSIBILITY WITH PARENTAL OCCUPATION	.13**	.09	.20*	.02	.23*
SOCIETAL RESPONSIBILITY WITH POPULATION DENSITY	-.36**	-.34**	-.42**	-32**	-.38**
PARENTAL EDUCATION WITH PARENTAL OCCUPATION	.88**	.88**	.84**	.81**	.90**
PARENTAL EDUCATION WITH POPULATION DENSITY	-.01	.02	-.12	.18	-.05
PARENTAL OCCUPATION WITH POPULATION DENSITY	-.08**	-.05	-.20*	.05	-.07

Pennsylvania n = 1896; Cognitive Effective n = 232; Cognitive Ineffective n = 196; Noncognitive Effective n = 167; and Noncognitive Ineffective n = 199 schools

**Significant at the .01 Level
*Significant at the .05 Level

TABLE 11

CORRELATIONS BETWEEN SELECTED VARIABLES, GRADE 8

VARIABLE	PENNSYLVANIA	COGNITIVE EFFECTIVE	COGNITIVE INEFFECTIVE	NONCOGNITIVE EFFECTIVE	NONCOGNITIVE INEFFECTIVE
SELF-ESTEEM WITH READING	.38**	.19	.54**	.27	.56**
SELF-ESTEEM WITH WRITING	.42**	.30**	.60**	.29	.61**
SELF-ESTEEM WITH MATHEMATICS	.36**	.29*	.57**	.30*	.57**
SELF-ESTEEM WITH INTEREST IN SCHOOL	.69**	.64**	.62**	.71**	.26
SELF-ESTEEM WITH SOCIETAL RESPONSIBILITY	.37**	.33*	.43**	.34*	.34*
SELF-ESTEEM WITH PARENTAL EDUCATION	.37*	.36**	.49**	.38**	.59**
SELF-ESTEEM WITH PARENTAL OCCUPATION	.31**	.33**	.47**	.23	.50**
SELF-ESTEEM WITH POPULATION DENSITY	.12*	.37**	.05	-.01	-.00
READING WITH WRITING	.93**	.86**	.93**	.94**	.94**
READING WITH MATHEMATICS	.90**	.85**	.87**	.90**	.92**
READING WITH INTEREST IN SCHOOL	.18**	.15	.13	.18	-.23
READING WITH SOCIETAL RESPONSIBILITY	.33**	.23	.42**	.42**	.49**
READING WITH PARENTAL EDUCATION	.51**	.36**	.63**	.47**	.54**

TABLE 11 - (Continued)

VARIABLE	PENNSYLVANIA	COGNITIVE EFFECTIVE	COGNITIVE INEFFECTIVE	NONCOGNITIVE EFFECTIVE	NONCOGNITIVE INEFFECTIVE
READING WITH PARENTAL OCCUPATION	.51**	.40**	.61**	.45**	.50**
READING WITH POPULATION DENSITY	-.50**	-.44**	-.52**	-.61**	-.60**
WRITING WITH MATHEMATICS	.90**	.81**	.88**	.89**	.90**
WRITING WITH INTEREST IN SCHOOL	.15**	.14	.12	.15	.30
WRITING WITH SOCIETAL RESPONSIBILITY	.26**	.16	.40**	.38**	.45**
WRITING WITH PARENTAL EDUCATION	.58**	.54**	.67**	.46**	.67**
WRITING WITH PARENTAL OCCUPATION	.59**	.58**	.68**	.47**	.64**
WRITING WITH POPULATION DENSITY	-.42**	-.24	-.45**	-.56**	-.50**
MATHEMATICS WITH INTEREST IN SCHOOL	.13**	.17	.13	.18	.22*
MATHEMATICS WITH SOCIETAL RESPONSIBILITY	.22**	.16	.33**	.39**	.33
MATHEMATICS WITH PARENTAL EDUCATION	.60**	.52**	.70**	.49**	.67**
MATHEMATICS WITH PARENTAL OCCUPATION	.62**	.53**	.73**	.50**	.66**
MATHEMATICS WITH POPULATION DENSITY	-.39**	-.26	-.39**	-.54**	-.44**
INTEREST IN SCHOOL WITH SOCIETAL RESPONSIBILITY	.49**	.49**	.37**	.27	.09

TABLE 11 - (Continued)

VARIABLE	PENNSYLVANIA	COGNITIVE EFFECTIVE	COGNITIVE INEFFECTIVE	NONCOGNITIVE EFFECTIVE	NONCOGNITIVE INEFFECTIVE
INTEREST IN SCHOOL WITH PARENTAL EDUCATION	.10*	.13	.16	.32*	-.14
INTEREST IN SCHOOL WITH PARENTAL OCCUPATION	.06	.11	.06	.16	-.24
INTEREST IN SCHOOL WITH POPULATION DENSITY	.10*	.24	.20	.03	.22
SOCIETAL RESPONSIBILITY WITH PARENTAL EDUCATION	-.16**	-.14	.00	.00	-.04
SOCIETAL RESPONSIBILITY WITH PARENTAL OCCUPATION	-.21**	-.13	-.05	-.13	-.07
SOCIETAL RESPONSIBILITY WITH POPULATION DENSITY	-.40**	-.14	-.39**	-47**	-.46**
PARENTAL EDUCATION WITH PARENTAL OCCUPATION	.85**	.87**	.88**	.85**	.89**
PARENTAL EDUCATION WITH POPULATION DENSITY	.12*	.25	.04	.09	.05
PARENTAL OCCUPATION WITH POPULATION DENSITY	.09	.21	.00	.06	.07

Pennsylvania n = 714; Cognitive Effective n = 93; Cognitive Ineffective n = 89; Noncognitive Effective n = 77; and Noncognitive Ineffective n = 54 schools

**Significant at the .01 Level
*Significant at the .05 Level

TABLE 12

CORRELATIONS BETWEEN SELECTED VARIABLES, GRADE 11

VARIABLE	PENNSYLVANIA	COGNITIVE EFFECTIVE	COGNITIVE INEFFECTIVE	NONCOGNITIVE EFFECTIVE	NONCOGNITIVE INEFFECTIVE
SELF-ESTEEM WITH READING	.24**	.28	.14	.17	.19
SELF-ESTEEM WITH WRITING	.21**	.22	.11	.19	.18
SELF-ESTEEM WITH MATHEMATICS	.13*	.22	-.06	-.01	.16
SELF-ESTEEM WITH INTEREST IN SCHOOL	.67**	.68**	.72**	.63**	.46**
SELF-ESTEEM WITH SOCIETAL RESPONSIBILITY	.26**	.09	.23	.08	-.04
SELF-ESTEEM WITH PARENTAL EDUCATION	.29**	.40**	.26	.36*	.45**
SELF-ESTEEM WITH PARENTAL OCCUPATION	.21**	.34*	.11	.30	.29
SELF-ESTEEM WITH POPULATION DENSITY	.38**	.36*	.43**	.53**	.41*
READING WITH WRITING	.89**	.87**	.85**	.82**	.93**
READING WITH MATHEMATICS	.87**	.81**	.88**	.75**	.92**
READING WITH INTEREST IN SCHOOL	.11*	.28	.10	.28	-.21
READING WITH SOCIETAL RESPONSIBILITY	.57**	.36*	.48**	.66**	.72**
READING WITH PARENTAL EDUCATION	.43**	.50**	.48**	.36*	.58**

TABLE 12 - (Continued)

VARIABLE	PENNSYLVANIA	COGNITIVE EFFECTIVE	COGNITIVE INEFFECTIVE	NONCOGNITIVE EFFECTIVE	NONCOGNITIVE INEFFECTIVE
READING WITH PARENTAL OCCUPATION	.43**	.47**	.32	.44**	.64**
READING WITH POPULATION DENSITY	-.32**	-.28	-.41	-.20	-.41*
WRITING WITH MATHEMATICS	.91**	.82**	.84**	.80**	.95**
WRITING WITH INTEREST IN SCHOOL	.04	.33*	-.07	.30	-.33
WRITING WITH SOCIETAL RESPONSIBILITY	.53**	.41**	.49**	.60**	.74**
WRITING WITH PARENTAL EDUCATION	.54**	.58**	.53**	.44**	.64**
WRITING WITH PARENTAL OCCUPATION	.55**	.58**	.41**	.47**	.70**
WRITING WITH POPULATION DENSITY	-.27**	-.17	-.37**	-.18	-.43**
MATHEMATICS WITH INTEREST IN SCHOOL	.02	.22	-.11	-.02	-.28
MATHEMATICS WITH SOCIETAL RESPONSIBILITY	.45**	.29	.32*	.40*	.67**
MATHEMATICS WITH PARENTAL EDUCATION	.53**	.57**	.45**	.45**	.69**
MATHEMATICS WITH PARENTAL OCCUPATION	.56**	.63**	.35**	.50**	.73**
MATHEMATICS WITH POPULATION DENSITY	-.33**	-.28	-.44**	-.37*	.44**
INTEREST IN SCHOOL WITH SOCIETAL RESPONSIBILITY	.25**	.30*	.08	.38*	.33

TABLE 12 - (Continued)

VARIABLE	PENNSYLVANIA	COGNITIVE EFFECTIVE	COGNITIVE INEFFECTIVE	NONCOGNITIVE EFFECTIVE	NONCOGNITIVE INEFFECTIVE
INTEREST IN SCHOOL WITH PARENTAL EDUCATION	.10	.28	.22	.15	-.02
INTEREST IN SCHOOL WITH PARENTAL OCCUPATION	.05	.27	.11	.17	-.06
INTEREST IN SCHOOL WITH POPULATION DENSITY	.32**	.22	.41**	.25	.54**
SOCIETAL RESPONSIBILITY WITH PARENTAL EDUCATION	-.04	.00	.06	-.02	.25
SOCIETAL RESPONSIBILITY WITH PARENTAL OCCUPATION	-.05	.09	.20	-.03	.28
SOCIETAL RESPONSIBILITY WITH POPULATION DENSITY	-.35**	-.25	-.39**	-28	-.50**
PARENTAL EDUCATION WITH PARENTAL OCCUPATION	.86**	.86**	.68**	.77**	.90**
PARENTAL EDUCATION WITH POPULATION DENSITY	.23**	.16	.14	.19	.04
PARENTAL OCCUPATION WITH POPULATION DENSITY	.19**	.13	.20	.07	-.08

Pennsylvania n = 598; Cognitive Effective n = 75; Cognitive Ineffective n = 75; Noncognitive Effective n = 57; and Noncognitive Ineffective n = 56 schools

**Significant at the .01 Level
*Significant at the .05 Level

significantly higher scores in self-esteem than ineffective schools. Also, ineffective schools had scores significantly lower than the state for self-esteem. Thus, schools that were successful in academic areas such as reading, writing and mathematics were generally more successful in noncognitive areas as well.

Schools that were effective based on a noncognitive definition were successful in their cognitive scores. The results in reading, writing and mathematics were not as consistent from grade level to grade level as was the case for the areas of self-esteem, interest in school and learning and societal responsibility.

It is unfortunate to report that the ineffective schools, in general, were ineffective in both cognitive and noncognitive areas. Another area of concern is the low interest in school and learning scores among secondary schools scoring high in basic skills. Possibly, teachers and administrators should consider this area more often when working with students.

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APPENDIX A.

"Noncognitive Items and State Data"

GRADE 5

SELF-ESTEEM

Form A	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree
1. My teachers usually tell me when they think I have done good work.	44*	41	7	4
2. I have a hard time deciding what to study.	12	26	28	30*
3. My classmates think I have good ideas.	19*	48	20	12
4. If I win a game, it's usually because I get lucky.	23	24	24	29*
5. I feel that my teachers understand me.	36*	41	12	10
6. Even when I know how to do something, I ask for help from others.	12	18	25	44*
7. My teachers sometimes make me feel that I cannot do good work.	16	19	27	37*
8. My classmates seem to like me.	46*	37	9	7
9. I can give a good report in front of the class.	23*	41	19	16
10. My teachers don't think that what I say is important.	11	18	33	38*
11. I feel unhappy about my schoolwork.	14	17	31	37*

Form B	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree
1. I'm proud of my schoolwork.	40*	46	8	5
2. My teachers want better work from me than I can do.	25	25	25	22*
3. I spend a lot of time daydreaming in school.	8	11	25	55*
4. I feel that my teachers like me.	39*	43	9	8
5. I often forget to listen to what others are saying.	10	25	33	31*
6. I do not make friends as easily as most other people.	16	18	23	43*
7. My teachers think I have good ideas.	17*	47	22	12
8. It bothers me if my classmates disagree with what I think.	18	25	32	24*
9. I am able to do many things well in school.	44*	42	9	5
10. I'm often called upon by the teacher to help out in the classroom.	17*	35	26	20
11. My classmates often make fun of me.	15	15	25	43*

Form C	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree
1. In school I am often asked to be a leader.	12*	29	30	27
2. My teachers do not let me try out my ideas.	11	25	29	32*
3. I get along well with kids in my class.	49*	36	8	6
4. My teachers often make me feel that I can't do anything right.	13	16	26	45*
5. I give up if I don't understand something.	9	13	27	51*
6. I am good at picking out the right things to study.	25*	45	17	12
7. I often feel that other kids are better liked than I am.	28	25	26	21*
8. It is easy for me to give a talk in front of the class.	17*	25	25	32
9. I am usually one of the last to be chosen for a team.	21	18	25	35*
10. When I make a mistake, my teachers correct me without hurting my feelings.	50*	27	11	11
11. I can't seem to do anything in school very well.	9	13	28	49*

INTEREST IN SCHOOL AND LEARNING

Form A

HOW DO YOU FEEL:	Very Happy	A Little Happy	A Little Unhappy	Very Unhappy
1. When you think about your schoolwork?	16*	47	25	12
2. When you think about how much your teacher cares about your class?	60*	30	7	3
3. About having to remember so many things at school?	12*	34	37	17
4. When you practice your writing in school?	30*	39	19	11
5. When you talk to your teacher?	46*	42	8	3
6. About talking with a friend about the things you have learned in school?	46*	39	9	5
7. When you learn social studies in school?	32*	35	17	15
8. When you think about your classroom in school?	33*	47	14	6
9. About studying something with a friend?	65*	26	5	3

Form B

HOW DO YOU FEEL:				
1. About learning something by reading a book?	45*	46	6	2
2. On days when you can't go to school?	35	24	26	14*
3. When you learn to read in school?	64*	30	4	2
4. When you study for a test?	20*	39	28	13
5. When you think about how much the principal cares about the children?	51*	33	9	7
6. When you write stories in school?	36*	40	15	8
7. When you are given a book for a birthday present?	49*	34	10	6
8. About asking your teacher for help?	30*	42	22	6
9. About learning new things at home about science?	53*	32	8	7

Form C

HOW DO YOU FEEL:	Very Happy	A Little Happy	A Little Unhappy	Very Unhappy
1. When you learn arithmetic in school?	42*	45	9	4
2. When you think about how fairly the children are treated in your school?	30*	35	23	12
3. When you play games that make you think?	57*	34	6	2
4. About reading a book by yourself?	57*	30	8	5
5. When you come back to school after a vacation?	23*	24	23	29
6. When you learn about science in school?	38*	40	14	8
7. When you have homework to do?	7*	26	35	32
8. On days when you are in school?	22*	50	19	9
9. When you learn new things in school?	61*	33	4	2

SOCIETAL RESPONSIBILITY

Form A

		Yes	Maybe	No
1.	If I saw some kids starting fires in an alley, I would report it.	81*	15	4
2.	I would help someone even if I thought my friends would make fun of me.	61*	32	7
3.	I would "fool around" on days when my regular teacher is not in class.	8	21	71*
4.	If I accidentally broke a school window and no one saw me do it, I would keep quiet about it.	21	31	48*
5.	If someone wanted to borrow a book I was using, I would let the person have it as soon as I could.	68*	23	8
6.	If I knew I wouldn't get caught, I would throw snowballs at a passing car.	9	14	77*
7.	I would sell something if my class were trying to raise money.	64*	26	10
8.	If everyone else was breaking a school rule, I would also break it.	6	19	75*
9.	If I found a school bag with no name on it, I would keep it.	5	12	83*

Form B

		Yes	Maybe	No
1.	I would cheat on a test if I felt the test was unfair.	6	18	76*
2.	If I was "fooling around" with the school's record player and broke it, I would tell the teacher.	65*	25	10
3.	If a friend of mine took something that didn't belong to him/her, I would try to get him/her to return it.	79*	15	6
4.	I would keep something I found rather than try to find the owner.	14	32	53*
5.	I would help with a class project even if I did not like it.	55*	34	11
6.	If I saw someone being "picked on" by other kids, I would try to help that person.	59*	32	8
7.	If I really needed it, I would sneak a book out of the library.	5	10	85*
8.	I would make fun of someone who played a game poorly.	5	19	75*
9.	If I scratched a neighbor's car with a bicycle, I would keep quiet about it.	22	31	46*

Form C

		Yes	Maybe	No
1.	I would yell and scream in the lunchroom if everyone else was doing it.	7	23	70*
2.	If people didn't give me candy at Halloween, I would turn over their garbage cans.	9	13	78*
3.	If I found a wallet with money in it, I would try to return it to the owner.	70*	18	11
4.	If I saw someone steal something in a store, I would report it to the manager.	81*	14	5
5.	If someone left some trash on the lunch table, I would clean it off.	32*	43	25
6.	If a store clerk gave me too much change, I would return the extra money.	60*	22	18
7.	I would make fun of someone I didn't like.	12	36	52*
8.	I would cheat in a game if I thought I could get away with it.	7	16	76*
9.	If someone in my class wore odd clothes, I would tease the person about it.	6	19	75*

GRADE 8

SELF-ESTEEM

Form A	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree
1. When I make a mistake, my teachers correct me without hurting my feelings.	24*	55	13	8
2. I don't like to tell my ideas in class if I think others will disagree with me.	28	35	23	14*
3. I am able to do many things well in school.	30*	55	10	5
4. When things go wrong for me, it is usually someone else's fault.	8	16	52	24*
5. My teachers expect better work from me than I am able to do.	19	27	38	16*
6. I feel accepted by my classmates.	35*	46	11	7
7. My teachers usually ignore me.	7	15	45	32*
8. I am good at picking out the right things to study.	15*	52	21	12

Form B	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree
1. I can give a good report in front of the class.	17*	46	23	14
2. Getting good grades depends more on how the teacher feels about me than on how well I do my work.	10	18	35	36*
3. I often become discouraged in school.	16	30	41	13*
4. I am able to mix well with other people.	33*	51	11	5
5. In class I often feel "put down" by my teachers.	9	15	46	30*
6. I feel that my classmates do not consider me to be important.	11	19	41	28*
7. I feel that my ideas are considered worthwhile by my teachers.	11*	47	28	13
8. When I do well in school, it is more often a matter of luck than effort.	8	11	35	45*

Form C	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree
1. My classmates think I have good ideas.	10*	59	23	8
2. I have a low opinion of my learning ability.	6	16	39	38*
3. My teachers listen to what I have to say.	18*	52	19	11
4. If I don't do well at something in class, it's usually because I didn't try hard enough.	31*	42	17	9
5. I am usually one of the last to be chosen for a group activity.	15	18	38	29*
6. I feel unhappy about my schoolwork.	12	23	43	23*
7. I feel accepted by most of my teachers.	23*	53	14	9
8. I often need someone to help me do my schoolwork.	8	17	42	32*

Form D	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree
1. I'm proud of my schoolwork.	24*	58	13	5
2. I do not make friends as easily as most other people.	8	18	37	36*
3. I feel that my teachers understand me.	13*	52	23	11
4. Having bad luck keeps me from doing better in class.	8	14	32	45*
5. I often feel that others are better liked than I am.	22	34	30	13*
6. I feel that my classmates have confidence in me.	15*	53	21	10
7. My teachers sometimes make me feel that I'm not good enough.	16	26	37	21*
8. I'm the sort of person who can't do anything in school really well.	8	15	35	41*

INTEREST IN SCHOOL AND LEARNING

Form A	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree
1. Most of my classes are taught in an interesting way.	9*	58	23	10
2. The courses offered in this school are very useful to me.	21*	58	14	6
3. Teachers help us when we need them.	33*	51	11	5
4. There is too much stress in this school on learning facts.	16	31	40	13*
5. I like learning English in this school.	22*	37	20	21
6. There are not enough activities outside of regular classes offered in this school.	26	22	28	24*
7. My teachers are interested in how well I do my assignments.	31*	48	14	6
8. Most of my classes this year are boring.	20	29	37	14*
9. Teachers put students under too much pressure in this school.	17	26	42	15*
10. There are interesting activities to look forward to in this school.	23*	40	21	15

Form B				
1. Most of my teachers explain to me how they grade my assignments and tests.	31*	52	12	6
2. There isn't much to do in this school except go to classes.	17	22	34	28*
3. There is no way for the students to get the principal to make changes.	26	29	30	15*
4. I enjoy my work at school.	13*	50	20	16
5. I like learning social studies in this school.	21*	35	21	22
6. I usually find it easy to pay attention in my classes in school.	15*	53	21	11
7. Students are often given the chance to tell their ideas about how school could be made better.	11*	30	33	26
8. The rules of this school are unfair to students.	13	22	44	21*
9. Most of the teachers in this school are interested in students.	21*	50	18	10
10. Most of my teachers really seem to care that I am able to learn what they teach.	29*	48	15	8

Form C	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree
1. Most of my teachers do a good job of teaching.	24*	62	9	5
2. When I work hard on schoolwork, my teachers praise my effort.	12*	44	31	12
3. No one listens to student ideas about how to make school better.	21	30	32	17*
4. The school principal really seems to care about students.	32*	39	16	14
5. Many of my school assignments are a waste of time.	14	20	41	24*
6. In most of my classes I enjoy getting involved in class activities.	28*	47	16	8
7. Students are not given enough chance to take part in class.	10	21	44	24*
8. I like learning science in this school.	26*	34	17	22
9. Most of my courses are taught in a way I can understand.	25*	54	14	7
10. Teachers and students don't get along very well in our school.	13	23	43	21*

Form D				
1. Most of my subjects this year are worthwhile.	21*	62	12	5
2. I think the activities (such as clubs, band and sports) offered in this school are worthwhile.	48*	38	9	5
3. Every day in this school is about the same.	34	43	16	7*
4. I feel I am learning a lot in my courses.	24*	58	12	5
5. Teachers in this school explain exactly what they expect in their courses.	21*	50	20	9
6. I like learning mathematics in this school.	34*	37	15	13
7. Most of my teachers won't listen to my opinion if it is different from theirs.	13	23	38	25*
8. School is usually interesting enough to keep me from getting bored.	11*	43	26	19
9. The teachers in this school do not give enough praise when you do well.	16	31	39	13*
10. Students in this school are treated like real people.	20*	45	20	16

SOCIETAL RESPONSIBILITY

Form A	Yes	Maybe	No
A. A student is in a large crowd of people on a street corner. The crowd is protesting about something. People pick up rocks and start throwing them at windows. In this situation, I would ALSO THROW ROCKS			
1. if I thought I would not get caught.	15	29	56*
2. even if I thought someone might get hurt.	9	13	78*
3. if I agreed with what the crowd was protesting about.	31	34	35*
B. A student is on a street corner with a group of friends when a fire breaks out across the street. Police officers come to tell the group to move out of the area. In this situation, I would OBEY THE POLICE.			
4. if the crowd would be in the way of the fire-fighters.	86*	7	7
5. even if most of my friends were staying in spite of the police officer's order.	57*	24	19
6. if the police might get rough if the group stayed.	66*	15	18
C. A student is in a club at school. The student is asked by the club president to work on the field trip committee, even though the student had asked not to be placed on that committee. If I was the student, I WOULD WORK ON THE FIELD TRIP COMMITTEE.			
7. because the club president might give me a good job later.	36*	37	27
8. if I knew the other club members would be angry at me for not serving.	30*	38	32
9. since everyone must do his/her part to make the club worthwhile.	60*	26	14
D. A student is on the street corner with friends during the lunch hour at school. His/her friends start throwing snowballs at passing cars. In this situation, I would ALSO THROW SNOWBALLS.			
10. if I probably wouldn't get caught.	29	23	48*
11. even if there was a school rule against it.	20	22	57*
12. if my friends would tease me for not throwing snowballs.	22	28	50*

Form B	Yes	Maybe	No
A. A student is at an amusement park with some friends. The student sees that a worker running one of the rides won't let a person on the ride because that person is of a different race. In this situation, I would PROTEST TO THE WORKER.			
1. even if the worker might make trouble for me.	49*	37	13
2. even if my friends would make fun of me for doing so.	43*	37	20
3. if I knew it was against the law for the worker to prevent the person from riding.	64*	20	16
B. A student comes back from lunch and finds that someone has put paper and trash on his/her desk. The student asks who did it but no one will answer. In this situation, I would CLEAN UP THE MESS MYSELF.			
4. if I knew that otherwise the teacher would keep me after school.	49*	22	29
5. since by doing so, my friends would realize how childish the act really was.	47*	30	23
6. even if I thought the others would make fun of me for cleaning up the mess.	34*	32	34
C. A student is in the classroom with his/her class when the teacher is called away for a few minutes. Several of the student's friends start to throw paper planes and make noise. In this situation, I would try to GET THEM TO STOP PLAYING AROUND AND TO BE QUIET.			
7. because if caught, the teacher would keep the whole class in after school.	49*	26	24
8. if there were school rules against throwing paper planes and making excessive noise.	34*	34	32
9. even if my friends would be angry with me for not joining in on the fun.	28*	35	38
D. A student is shopping in a store and sees a person taking some things from the shelf and placing them in a hidden bag. In this situation, I WOULD REPORT THE THIEF TO THE STORE MANAGER.			
10. even if my friends would make fun of me.	48*	27	25
11. even if I would have to spend several days testifying at the person's trial.	38*	31	31
12. because law-breakers should be brought to justice.	64*	20	16

Form C	Yes	Maybe	No
A. A student gets a dog. A city law requires that a $10 dog tag be bought by the dog's owner. In this situation, I would BUY THE TAG.			
1. if the fine for not having a tag was $25.	64*	19	17
2. if the dog might be more easily lost or stolen without a tag.	70*	20	11
3. since owners are responsible for their dogs.	74*	18	8
B. A student gets a test paper back from the teacher with an "A" on it which really should be a "C." The teacher miscored the test. If this was my test paper, I would TELL THE TEACHER.			
4. even if I needed an "A" to pass the course.	38*	31	31
5. even if my friends would think I was silly to have told the teacher about it.	43*	31	26
6. because it is simply the right thing to do regardless of whether I got a "C."	54*	25	21

Form D	Yes	Maybe	No
A. A student accidentally breaks a school window. If I was that student, I would TELL THE PRINCIPAL OR TEACHER about my breaking the window.			
1. even if I would have to pay for the window.	44*	36	20
2. since it is the honest thing to do.	63*	25	13
3. if the entire class would be punished if the person who broke the window were not caught.	59*	21	20
B. A student is with friends in the hall. The student sees a new student standing alone. In this situation, I would HAVE MY FRIENDS MEET THE NEW STUDENT.			
4. if I knew the student were a good student and might help me with my homework.	22*	28	50
5. even if my friends would be upset with me.	31*	43	25
6. if the student had a hard time making friends.	63*	27	11
C. A student is with a group of friends. Some of them begin to make fun of another student. In this situation, I would also MAKE FUN OF THE STUDENT.			
7. if the student had once made fun of me.	48	30	23*
8. even if the school had strict rules against it.	21	35	44*
9. if my friends would approve of my doing it.	18	34	47*
D. A student is on traffic control duty after school. The student sees two classmates fighting nearby. If I was the student on duty, I would STOP THE FIGHT.			
10. even if they might attack me instead of each other.	37*	32	31
11. because my job includes enforcing rules against fighting.	59*	25	16
12. even if my friends would think I were foolish for stopping the fight.	46	32	22

GRADE 11

SELF-ESTEEM

Form A	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree
1. I feel accepted by my classmates.	37*	54	6	2
2. Often in my classes I don't understand what point the teacher is trying to make.	8	25	55	13*
3. I am usually one of the last to be chosen for a group activity.	8	16	47	28*
4. My teachers listen to what I have to say.	19*	60	14	7
5. I feel unhappy about my schoolwork.	11	25	49	16*
6. I feel that my classmates do not consider me to be important.	7	18	47	27*
7. I am able to do many things well in school.	24*	60	12	4
8. I have a low opinion of my learning ability.	6	16	42	36*

Form B				
1. I'm proud of my schoolwork.	19*	60	17	4
2. I often feel that others are better liked than I am.	16	36	38	10*
3. When I do well in school, it is more often a matter of luck than effort.	6	14	49	31*
4. My classmates think I have good ideas.	9*	63	22	5
5. In class I often feel "put down" by my teachers.	6	13	51	29*
6. I can give a good report in front of the class.	14*	38	26	22
7. My teachers usually ignore me.	5	12	53	30*
8. I'm the sort of person who can't do anything in school really well.	5	14	39	42*

Form C	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree
1. I feel that my classmates have confidence in me.	21*	64	11	4
2. My teachers expect better work from me than I am able to do.	13	29	47	10*
3. I do not make friends as easily as most other people.	7	18	38	36*
4. I am good at picking out the right things to study.	12*	58	23	8
5. Getting good grades depends more on how the teacher feels about me than on how well I do my work.	8	17	44	31*
6. If I win a game, it's usually because I got lucky.	5	16	48	31*
7. I feel that my ideas are considered worthwhile by my teachers.	9*	53	28	10
8. I don't like to tell my ideas in class if I think others will disagree with me.	16	35	32	16*

Form D				
1. If I work at something long enough in school, I will do it well.	50*	43	4	2
2. I often need someone to help me do my schoolwork.	4	17	52	27*
3. I feel accepted by most of my teachers.	22*	62	11	5
4. I keep my ideas to myself in class unless I am sure I'm right.	24	44	24	8*
5. If I don't do well at something in class, it's usually because I didn't try hard enough.	28*	46	19	6
6. I am able to mix well with other people.	35*	53	9	3
7. I often become discouraged in school.	15	30	43	11*
8. My teachers sometimes make me feel that I'm "not good enough."	11	19	45	24*

INTEREST IN SCHOOL AND LEARNING

Form A	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree
1. When I make a mistake, my teachers correct me without hurting my feelings.	22*	58	13	7
2. I feel I am learning a lot in my courses.	20*	60	14	6
3. Teachers help us when we need them.	21*	58	15	6
4. I like learning social studies in this school.	20*	36	24	21
5. Every day in this school is about the same.	41	41	12	5*
6. Teachers in this school explain exactly what they expect in their courses.	21*	54	19	6
7. Students are under too much pressure in this school.	16	26	46	12*
8. I often study in my courses beyond what is required by my teacher.	6*	25	47	22
9. The courses offered in this school are very useful to me.	21*	53	17	9
10. The rules of this school are unfair to students.	16	21	44	19*

Form B	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree
1. The school principal really seems to care about students.	22*	49	18	11
2. I like learning science in this school.	17*	37	25	22
3. Most of my teachers explain to me how they grade my assignments and tests.	37*	46	11	6
4. I usually find it easy to pay attention in my classes in school.	11*	53	24	11
5. There is not enough variety in the way classes are taught.	27	38	28	7*
6. My teachers are interested in how well I do my assignments.	18*	54	21	7
7. There aren't enough different kinds of courses offered by this school.	18	21	39	21*
8. I like to spend free time learning new things.	25*	52	17	6
9. Most of my teachers grade fairly.	19*	64	11	6
10. There isn't much to do in this school except going to classes.	23	23	32	22*

Form C	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree
1. Many of my school assignments are a waste of time.	16	26	45	12*
2. It is important to me to learn as much as I can in school each day.	33*	52	11	3
3. The teachers in this school do not give you enough praise when you do something well in their courses.	22	35	36	7*
4. I like learning English in this school.	17*	37	23	23
5. No one listens to student ideas about how to make school better.	29	32	30	9*
6. Most of my teachers really seem to care that I am able to learn what they are teaching.	18*	51	21	9
7. I think this school has prepared me to make better decisions about life's problems.	13*	48	25	13
8. School is usually interesting enough to keep me from getting bored.	7*	40	32	21
9. Most of the teachers in this school are concerned about students.	13*	51	24	11
10. Pupils in this school are given enough freedom in planning their own programs to meet their future needs.	31*	43	14	12

Form D	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree
1. Students in this school are treated like real people.	11*	58	20	11
2. Learning about new ideas interests me very much.	41*	51	5	2
3. Most of my teachers do a good job of teaching.	15*	62	16	6
4. I like learning mathematics in this school.	24*	37	22	17
5. There are interesting activities to look forward to in this school.	22*	44	23	12
6. When I work hard on schoolwork my teachers praise my effort.	8*	37	38	17
7. Students are not allowed enough choice as to what they study in class.	24	37	28	10*
8. I like to talk to people from whom I can learn new things.	44*	48	5	2
9. Most of my teachers won't listen to my opinion if it is different from theirs.	14	26	43	16*
10. When it's important, the school principal involves students in making school decisions.	10*	29	29	31

SOCIETAL RESPONSIBILITY

Form A

	Yes	Maybe	No
A. While backing out of a parking place, a student accidentally hits a parked car. The student's car is not damaged but the other car is. If I was this student, I would LEAVE MY NAME AND PHONE NUMBER FOR THE OWNER OF THE CAR.			
1. even if the police might give me a ticket for reckless driving.	58*	27	15
2. because it is the law to report a car accident.	68*	18	14
3. even if I didn't have insurance.	34*	31	35
B. A student is on a street corner with a group of friends when a fire breaks out across the street. Police officers come and tell the group to move out of the area. In this situation, I would OBEY THE POLICE.			
4. if the police might get rough if the group stayed.	70*	18	12
5. if the crowd would be in the way of the fire fighters.	88*	8	5
6. even if most of my friends were staying in spite of the police officers' order.	59*	27	14
C. The principal invites an unpopular speaker to the school. The speaker has ideas that most students strongly disagree with. A group of students decides to shout the speaker down. In this situation, I would HELP SHOUT THE SPEAKER DOWN.			
7. even if I might be expelled from school.	12	17	71*
8. because I wanted to be accepted by the others.	6	17	77*
9. if the speaker said he didn't respect students' ideas.	52	30	17*

Form B

A. You are with a group of friends. Several start making fun of another person who is standing there also. In this situation, I would GET THEM TO STOP.			
1. even if I did not like the person.	24*	50	25
2. even if I had seen the person making fun of others.	12*	38	50
3. even if my friends would be angry with me for not going along.	38*	40	22
B. There is a secret club at school called the Midnight Artists. They go out late at night and paint funny sayings on buildings. A student is asked to join the club. In this situation, I would JOIN THE CLUB.			
4. even if we might get caught and be arrested.	8	13	79*
5. if my best friend asked me to join.	11	29	60*
6. even though the writing made the neighborhood look bad.	7	12	81*
C. A student comes to school early and finds a new notice on the bulletin board telling about a part-time job. If I was this student, I would REMOVE THE POSTER BEFORE ANYONE ELSE COULD SEE IT.			
7. even if my friends saw me and they would think badly of me.	14	19	66*
8. if it would increase my chances of getting the job.	33	29	38*
9. even though other students really needed the job.	18	26	56*

Form C

	Yes	Maybe	No
A. One person always does more than is required on school assignments and homework. This makes the other students look bad by comparison. A group of students decides to get everyone to ignore this person. I would GO ALONG WITH THE GROUP AND NOT SPEAK TO THIS PERSON.			
1. if my friends asked me to go along with the idea.	13	45	42*
2. even though I knew the student was only trying to learn as much as possible.	11	27	61*
3. if I didn't like the person.	51	32	18*
B. A student accidentally breaks the lens on a school microscope. No one sees it happen. If I were this student, I would TELL THE PRINCIPAL OR THE TEACHER ABOUT THE DAMAGE I CAUSED.			
4. if my classmates might have to pay for the damage unless I told the teacher that I did it.	67*	18	15
5. if the teacher would think well of me for having been honest.	64*	22	14
6. if another student were accused of breaking it.	68*	18	14
C. A student gets a dog. A city law requires that a $10 dog tag be bought by the dog's owner. In this situation, I would BUY THE TAG.			
7. if the fine for not having a tag was $25.	67*	15	18
8. if the dog might be more easily lost or stolen without a tag.	76*	14	9
9. since owners are responsible for their dogs.	75*	16	9

Form D

A. A student has a term paper due in several days. The book the student needs most is not permitted to leave the library. If I was this person, I would SNEAK THE BOOK OUT OF THE LIBRARY.			
1. even if I might get caught and lose my library privilege.	22	30	48*
2. even if my friends would think badly of me.	17	23	60*
3. even if others might be looking for the same book in the library.	21	24	55*
B. A student is at a restaurant with some friends. The student sees that the waiter refuses to serve a person because the person is of another race. I would REPORT THE WAITER TO LOCAL OFFICIALS.			
4. even if the waiter might have me thrown out.	67*	20	13
5. because the waiter is breaking the law.	68*	19	14
6. even if my friends would get angry at me for doing it.	53*	31	16
C. A student is in a large crowd of people on a street corner. The crowd is protesting about something. People pick up rocks and start throwing them at windows. In this situation, I WOULD ALSO THROW ROCKS.			
7. if I thought I would not get caught.	14	17	69*
8. even if I thought someone might get hurt.	7	11	82*
9. if I agreed with what the crowd was protesting about.	22	30	48*